

What is claimed is:

1. A passive terminator between a plurality of nodes, the terminator comprising:
 - 5 a first voltage divider configured to passively set a differential voltage level between a first voltage level and a second voltage level, the first voltage divider having Thevenin resistance and being electrically connectable to a first node;
 - at least a second voltage divider configured to passively set the differential voltage level between the first voltage level and the second voltage level, the at least second voltage divider having the Thevenin resistance and being electrically connectable to at least a second node; and
 - 10 a transformer electrically connected between the first voltage divider and the at least second voltage divider, the transformer having a reactance that is substantially greater than the Thevenin resistance of the first and at least second voltage dividers.
- 15 2. The terminator of Claim 1, wherein the transformer includes a pulse transformer.
3. The terminator of Claim 1, wherein the first and at least second nodes include transmitter/receiver nodes.
4. The terminator of Claim 3, wherein the first voltage level is an active voltage level for actively driving a transmitter/receiver and the second voltage level is an idle voltage level
20 for permitting the transmitter/receiver to remain in a quiescent state.
5. The terminator of Claim 4, wherein the second voltage level includes ground.
6. The terminator of Claim 5, wherein the transmitter/receiver includes an Ethernet transmitter/receiver.
7. The terminator of Claim 4, wherein the second voltage level includes voltage levels
25 other than ground.
8. The terminator of Claim 7, wherein the transmitter/receiver includes a Controller Area network transmitter/receiver.
9. The terminator of Claim 8, wherein the first voltage level is around 3.75 volts DC and the second voltage level is around 1.25 volts DC.



25315

PATENT TRADEMARK OFFICE

10. The terminator of Claim 1, wherein a magnitude of the reactance of the transformer is at least around ten times a magnitude of the Thevenin resistance of the first voltage divider and the at least second voltage divider.

11. A passive terminator between a plurality of nodes, the terminator comprising:
5 a first voltage divider configured to passively set a differential voltage level between a first voltage level and a second voltage level, the first voltage divider having a Thevenin resistance and being electrically connectable to a first transmitter/receiver node;
at least a second voltage divider configured to passively set the differential
10 voltage level between the first voltage level and the second voltage level, the at least second voltage divider having the Thevenin resistance and being electrically connectable to at least a second transmitter/receiver node; and
a pulse transformer electrically connected between the first voltage divider and the at least second voltage divider, the pulse transformer having a reactance
15 that is substantially greater than the Thevenin resistance of the first and second voltage dividers.

12. The terminator of Claim 11, wherein the first voltage level is an active voltage level for actively driving a transmitter/receiver and the second voltage level is an idle voltage level for permitting the transmitter/receiver to remain in a quiescent state.

13. The terminator of Claim 12, wherein the second voltage level includes ground.

14. The terminator of Claim 13, wherein the transmitter/receiver includes an Ethernet transmitter/receiver.

15. The terminator of Claim 12, wherein the second voltage level includes voltage levels other than ground.

16. The terminator of Claim 15, wherein the transmitter/receiver includes a Controller Area network transmitter/receiver.

17. The terminator of Claim 16, wherein the first voltage level is around 3.75 volts DC and the second voltage level is around 1.25 volts DC.



25315

PATENT TRADEMARK OFFICE

18. The terminator of Claim 11, wherein a magnitude of the reactance of the transformer is at least around ten times a magnitude of the Thevenin resistance of the first voltage divider and the at least second voltage divider.

19. A method for passively terminating a first node and at least a second node, the method comprising:

passively setting a differential voltage level between a first voltage level and a second voltage level with a first voltage divider having a Thevenin resistance at a first node;

passively setting the differential voltage level between the first voltage level and the second voltage level with at least a second voltage divider having a Thevenin resistance at at least a second node; and

inductively coupling the first voltage divider and the at least second voltage divider with a transformer having an inductive reactance that is substantially greater than the Thevenin resistance of the first and at least second voltage dividers.

20. The method of Claim 19, wherein inductively coupling includes providing a pulse transformer.

21. The method of Claim 19, wherein the first and at least second nodes include transmitter/receiver nodes.

22. The method of Claim 21, wherein the first voltage level is an active voltage level for actively driving a transmitter/receiver and the second voltage level is an idle voltage level for permitting the transmitter/receiver to remain in a quiescent state.

23. The method of Claim 22, wherein the second voltage level includes ground.

24. The method of Claim 23, wherein the transmitter/receiver includes an Ethernet transmitter/receiver.

25. The method of Claim 22, wherein the second voltage level includes voltage levels other than ground.

26. The method of Claim 25, wherein the transmitter/receiver includes a Controller Area network transmitter/receiver.



25315

PATENT TRADEMARK OFFICE

27. The method of Claim 26, wherein the first voltage level is around 3.75 volts DC and the second voltage level is around 1.25 volts DC.

28. The method of Claim 19, wherein a magnitude of the reactance of the transformer is at least around ten times a magnitude of the Thevenin resistance of the first voltage divider and the at least second voltage divider.

29. A system for transmitting and receiving signals to and from a plurality of transmitter/receiver nodes, the system comprising:

a first transmitter/receiver node;
a first voltage divider configured to passively set a differential voltage level between a first voltage level and a second voltage level, the first voltage divider having Thevenin resistance and being electrically connected to the first transmitter/receiver node;
at least a second transmitter/receiver node;
at least a second voltage divider configured to passively set the differential voltage level between the first voltage level and the second voltage level, the at least second voltage divider having the Thevenin resistance and being electrically connected to at least a second transmitter/receiver node; and
a transformer electrically connected between the first voltage divider and the at least second voltage divider, the transformer having a reactance that is substantially greater than the Thevenin resistance of the first and at least second voltage dividers.

30. The system of Claim 29, wherein the transformer includes a pulse transformer.

31. The system of Claim 29, wherein the first voltage level is an active voltage level for actively driving a transmitter/receiver and the second voltage level is an idle voltage level for permitting the transmitter/receiver to remain in a quiescent state.

32. The system of Claim 31, wherein the second voltage level includes ground.

33. The system of Claim 32, wherein the transmitter/receiver includes an Ethernet transmitter/receiver.

34. The system of Claim 31, wherein the second voltage level includes voltage levels other than ground.



25315

PATENT TRADEMARK OFFICE

35. The system of Claim 34, wherein the transmitter/receiver includes a Controller Area network transmitter/receiver.

36. The system of Claim 35, wherein the first voltage level is around 3.75 volts DC and the second voltage level is around 1.25 volts DC.

5 37. The system of Claim 29, wherein a magnitude of the reactance of the transformer is at least around ten times a magnitude of the Thevenin resistance of the first voltage divider and the at least second voltage divider.